

REMARKS

Claims 1-13, 15, 17 and 18 are currently pending in the application, as amended. Claims 19-22 have been cancelled and claims 14 and 16 have been withdrawn from consideration, in accordance with the Examiner's request. Claim 1 has been amended to point out that each modular elongate member unit of a plurality of modular elongate member units is stackable and engageable to identical modular elongate member units to form an assembled elongate member. Support for this amendment to claim 1 can be found in specification paragraphs 19, 36-45, 82-93 and 117-122 and in Figs. 13a-17c. In addition, claim 1 has been amended to cancel the phrases "adapted to" and the word, "for" and to grammatically amend claim 1 in accordance with the cancellation of the phrase and the word, in accordance with the Examiner's comments. Support for this amendment to claim 1 can be found throughout the specification of the originally filed application. Accordingly, no new matter has been added to the application as a result of the above-described amendment to claim 1.

CLAIM REJECTIONS

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1, 3-10, 12, 13, 15, 17 and 18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,499,255 (Givoni). The Examiner argues that Givoni discloses each and every element of the above-listed claims. Applicants respectfully traverse this rejection.

Referring to Figs. 1 and 11-22, Givoni is directed to a transparent panel 2 having a plurality of integral cells 4 therein and a plurality of light-blocking members 6 rotateably mounted inside of the cells 4. The light-blocking members 6 are driven to rotate within the tubular cells 4 by a motor 8 and a driving assembly mounted at one edge of the transparent panel 2. The driving assembly includes lower and upper casing members 12, 12' with grooves 66, 66' therein and a cover plate 14, lower and upper racks 64, 64' that are slideable within the grooves 66, 66', a bearing wall 68 fixed between the lower and upper casing members 12, 12', an Oldham coupling including first, second and third coupling members 62A, 62B, 62C, lower and upper split walls 72, 72' that maintain engagement between the second and third coupling members 62B, 62C, and a gear 58 mounted to a shaft of each of the first coupling members 62A. The

Oldham couplings 62A, 62B, 62C are mounted to the panel 2 between the lower and upper casing members 12, 12' in holes 70 in the bearing wall 68 and by semi-circular recesses 74, 74' in the lower and upper split walls 72, 72'. The third coupling member 62C includes an end that is received into the light-blocking member 6 such that the light-blocking member 6 rotates when the Oldham coupling 62A, 62B, 62C rotates.

In operation, the motor 8 drives the gears 58, resulting in translation of the lower and upper racks 64, 64'. Translation or sliding of the lower and upper racks 64, 64' within the grooves 66, 66' causes the teeth on the racks 64, 64' to drive each of the other gears 58 in the same direction of the driven gear 58. Accordingly, each of the light-blocking members 6 is rotated in the same direction as the gears 58 through the Oldham coupling 62A, 62B, 62C.

Referring to Figs. 1 and 12-16b, the present application is directed to a shutter assembly 1 including at least one continuous, unitary translating member 33a, 34a. A plurality of modular elongate member units 30a are each mounted to a single shutter blade 27. The modular elongate member units 30a include a support 31a, 32a for a compact boss 30 that engages the shutter blade 27. Each modular elongate member unit 30a is stackable and engageable to identical modular elongate member units 30a to form an assembled elongate member 50a (Figs. 16a and 16b). Rotation of the compact boss 30 causes rotation of the shutter blade 27. The assembled elongate member 50a facilitates reciprocal travel of the translating member 33a, 34a along or within the assembled elongate member 50a. The support 31a, 32a supports the compact boss 30 for co-action with the translating member 33a, 34a such that reciprocal motion of the translating member 33a, 34a results in rotational motion in the compact boss 30 and rotation of the shutter blade 27. The modular elongate member units 30a are stackable and engageable through a tongue 38a on a lateral edge of the modular elongate member units 30a that releaseably engages a groove 39a on an opposite lateral edge of each of the modular elongate member units 30a.

Amended claim 1 is directed to a shutter assembly and recites, *inter alia*, as follows:

at least one continuous, unitary translating member;

a plurality of modular elongate member units, each modular elongate member unit mounted to a single shutter blade and including:

a support for a compact boss engaged to the shutter blade, whereby rotation of the compact boss causes rotation of the shutter blade;

wherein each modular elongate member unit is stackable and engageable to identical modular elongate member units to form an assembled elongate member; and

wherein the assembled elongate member facilitates reciprocal travel of the translating member along or within the assembled elongate member and the support supports the compact boss such that the compact boss co-acts with the translating member to translate such reciprocal motion of the translating member into rotational motion in the compact boss so as to rotate the shutter blade.

Applicants respectfully submit that there is no teaching, suggestion or disclosure in Givoni of a shutter assembly including a plurality of elongate member units having a compact boss mounted therein and the plurality of modular elongate member units that are stackable and engageable to identical modular elongate member units to form an assembled elongate member. Specifically, Givoni discloses the transparent panel to having the Oldham couplings mounted by the fixed-length bearing wall 68 and the fixed-length, continuous lower and upper split walls 72, 72'. The bearing wall and split walls mounting the Oldham couplings are not stackable and engageable to identical bearing walls and/or split walls to form an assembled elongate member with a continuous, unitary translating member extending therethrough for reciprocal travel. The width or length of the panel, bearing wall and split wall define the length of the unitary rack or translating member and the number of light-blocking members or shutters that are included in each panel. In contrast, claim 1 claims the plurality of modular elongate member units are mounted to a single shutter blade and are stackable and engageable to form an assembled elongate member that facilitates reciprocal travel of the continuous, unitary translating member therein. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of amended claim 1 based upon anticipation by Givoni.

Claims 3-10, 12, 13, 15, 17 and 18 are dependent upon amended claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claims 3-10, 12, 13, 15, 17 and 18 based upon anticipation by Givoni, based at least upon their dependence upon amended claim 1.

In addition, referring to Figs. 13a-15b of the present application, the modular elongate member units 30a may be engaged or stacked together by a variety of modular unit engagement means. The modular unit engagement means may include apertures, grooves, tracks or slots. In the embodiment of the modular elongate member units 30a shown in Figs. 13a-15b, the modular

unit engagement means is comprised of elongate tongues and grooves 38a, 39a mounted to lateral edges of the modular elongate member units 30a.

Claim 8 is dependent upon amended claim 1 and claim 12 is dependent upon claim 8. Claims 8 and 12 recite, as follows:

8. A shutter assembly according to claim 1, wherein the engagement of the modular elongate member unit to adjacent identical modular elongate member units may include a variety of modular unit engagement means.

12. A shutter assembly according to claim 8, wherein the modular unit engagement means include any one chosen from the group of apertures, grooves, tracks, or slots.

Applicants respectfully submit that there is no teaching, suggestion or disclosure in Givoni of modular unit engagement means comprised of apertures, grooves, tracks or slots that accommodate the stacking and engagement of the plurality of modular elongate member units to form the assembled elongate member. As was described above, Givoni includes the Oldham couplings that are mounted to the bearing wall and split walls. The bearing wall and split walls of Givoni are not engageable or stackable and do not include engagement means comprised of apertures, grooves, tracks or slots to form an assembled elongate member. Therefore, Applicants respectfully request that the Examiner also reconsider and withdraw any rejection of claims 8 and 12 for the above-stated reasons.

The Examiner rejected claims 1-3 and 5-12 under 35 U.S.C. § 102(b) as being anticipated by European Patent No. 0 119 369 B1 (Balsamo). The Examiner argues that Balsamo disclosed as each and every element of claims 1-3 and 5-12. Applicants respectfully traverse this rejection.

Referring to Figs. 1, 2, 8-11, 13 and 14, Balsamo is directed to a blind assembly including perimetral extruded sections 1, a plurality of rack devices 11 that are slideably received into an interior 1a of the extruded sections 1 and a plurality of slats 2 that are mounted at their ends to one of the racks 11. The perimetral extruded sections 1 include the hollow interior 1a, a longitudinal slot 1c for insertion of a ceiling gasket 10, a pair of longitudinal spacers 1d to engage a window frame and a longitudinal opening 1e adjacent the longitudinal slot 1c. Each of the plurality of racks 11 include a pair of plates 11a, a cog wheel 12 with an integral hub 12a rotateably mounted between the two plates 11a and a rack bar 13 slidably mounted between the two plates 11a. The rack bar 13 includes a head-shaped appendix 13a at one end, a

complementary slot 13b at an opposite end and gear teeth that mate with the teeth on the cog wheel 12.

To assemble the blind, the perimetral sections 1 are mounted to the window such that the longitudinal opening 1e is facing away from the window frame. A predetermined number of racks 11 are secured together by engaging the head-shaped appendices 13a of the rack bar 13 of one of the racks 11 with the complimentary slot 13b of an adjacent rack 11. The engaged racks 11 are urged into the interior 1a of the perimetral extruded sections 1 such that a hole 12b of the cog wheels 12 are exposed from the longitudinal openings 1e. The slats 2 are then engaged with the exposed holes 12b.

In operation, a knob 16 extending through one of the perimetral extruded sections 1 is attached to one of the rack bars 13 and translates the rack bar 13 when it is rotated. When the rack bar 13 translates, each of the rack bars 13 attached to the selected rack bar 13 also translate. Translation of the rack bars 13, which are secured together through engagement of the head-shaped appendices 13a and the complementary slots 13b cause the cog wheels 12 to rotate. Rotation of the cog wheels 12 causes the slats 2 to rotate. The individual racks 11 are not directly engaged to each other but are mounted to each other through engagement of the head-shaped appendices 13a with the complementary slots 13b of the rack bars 13.

Claim 1 of the present application is directed to a shutter assembly and recites, *inter alia*, as follows:

at least one continuous, unitary translating member;

a plurality of modular elongate member units, each modular elongate member unit mounted to a single shutter blade and including:

a support for a compact boss engaged to the shutter blade, whereby rotation of the compact boss causes rotation of the shutter blade;

wherein each modular elongate member unit is stackable and engageable to identical modular elongate member units to form an assembled elongate member; and

wherein the assembled elongate member facilitates reciprocal travel of the translating member along or within the assembled elongate member and the support supports the compact boss such that the compact boss co-acts with the translating member to translate such reciprocal motion of the translating member into rotational motion in the compact boss so as to rotate the shutter blade.

Applicants respectfully submit that Balsamo does not teach, suggest, or disclose each and every element of claim 1 of the present application. Specifically, Balsamo does not teach, suggest or disclose a continuous, unitary translating member that travels in a reciprocal manner within an assembled elongate member comprised of a stack of modular elongate members that are engageable to each other. Specifically, Balsamo teaches a multi-piece rack or multiple translating members that are engaged together at head-shaped appendices that mount in slots of an opposing rack bar. Accordingly, the rack or translating member of Balsamo is not continuous and unitary, as is claimed in claim 1. Further, the modular elongate member units are not engageable to each other in the configuration of Balsamo. The plurality of rack bars secures the individual racks relative to each other in the assembled configuration in Balsamo as opposed to the modular elongate member units. Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claim 1 based upon anticipation by Balsamo.

Claims 2, 3 and 5-12 are dependent upon claim 1. Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claims 2, 3 and 5-12 based at least upon their dependence upon claim 1 for the above-stated reasons.

Claims 8-12 are directed to engagement means that engage the adjacent modular elongate member units to each other including male members adapted to engagedly cooperate with female members, snap lock locaters, apertures, grooves, tracks and/or slots. The modular unit engagement means of the present application are separate components from the continuous, unitary translating member that is reciprocal within the assembled elongate member. Applicants respectfully submit that Balsamo does not teach, suggest or disclose any feature that may be considered the engagement means that is separate from the continuous, unitary translating member of claim 1, as the translating rack of Balsamo secures the individual racks together as opposed to any separate engagement means of the racks. Based upon the above, Applicants also respectfully request that the Examiner reconsider and withdraw any rejection of claims 8-12 based upon anticipation by Balsamo.

Claim Rejections – 35 U.S.C. § 103(a)

The Examiner rejected claims 2 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Givoni in view of Balsamo. The Examiner argues that Givoni discloses each and every element of claims 2 and 11 except for providing the elongate member unit having a pair of

separately formed and joinable half components. The Examiner further argues that Balsamo discloses such a feature and it would have been obvious to one having ordinary skill in the art to provide the shutter assembly of Givoni with separable half components as taught by Balsamo since separable half components allow the shutter assembly to be mounted together to form a working shutter as well as to be adjustable along its length. Applicants respectfully traverse this rejection.

Claim 1 is directed to a shutter assembly and recites, *inter alia*, as follows:

at least one continuous, unitary translating member;

a plurality of modular elongate member units, each modular elongate member unit mounted to a single shutter blade and including:

a support for a compact boss engaged to the shutter blade, whereby rotation of the compact boss causes rotation of the shutter blade;

wherein each modular elongate member unit is stackable and engageable to identical modular elongate member units to form an assembled elongate member; and

wherein the assembled elongate member facilitates reciprocal travel of the translating member along or within the assembled elongate member and the support supports the compact boss such that the compact boss co-acts with the translating member to translate such reciprocal motion of the translating member into rotational motion in the compact boss so as to rotate the shutter blade.

Applicants respectfully submit that even if Givoni were modified in view of Balsamo to include an elongate member unit having a pair of separately formed and joinable half components, as is proposed by the Examiner, the combined device would not include each and every element of amended claim 1. Specifically, Applicants respectfully submit that the proposed device of Givoni in view of Balsamo would not include a plurality of modular elongate member units that are stackable and engageable to identical modular elongate member units to form an assembled elongate member that facilitates reciprocal travel of a continuous, unitary translating member therein, as is claimed in claim 1. Specifically, the device proposed by the Examiner would include the Oldham couplings mounted to the fixed length bearing wall and split walls of Givoni that are not stackable and engageable to identical units to form an assembled elongate member. In addition, one having ordinary skill in the art would not modify

the device disclosed in Givoni to include stackable and engageable modular elongate member units with the continuous, unitary translating member therein because there is no such feature or element in either of the devices of Givoni or Balsamo. Therefore, Applicants respectfully submit no combination of Givoni in view of Balsamo would result in a device including each and every element of amended claim 1.

Claims 2 and 11 are dependent upon amended claim 1. Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claims 2 and 11 based upon unpatentability over Givoni in view of Balsamo based upon their dependence upon amended claim 1 for the above-stated reasons.

The Examiner rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Balsamo in view of Givoni. The Examiner argues that Balsamo discloses each and every element of claim 4 except for providing a motorized turning means having sensors. The Examiner further argues that Givoni discloses such a feature and it would have been obvious to one having ordinary skill in the art to provide Balsamo with a motorized turning means having sensors as taught by Givoni since the motorized turning means having sensors allows the shutter assembly to be automatically opened and closed upon set and desired conditions. Applicants respectfully traverse this rejection.

Applicants respectfully submit that even if Balsamo were modified in view of Givoni to include a motorized turning means having sensors, as is proposed by the Examiner, the combined device would not include each and every element of amended claim 1. Specifically, Applicants respectfully submit that the proposed device of Balsamo in view of Givoni would not include a continuous, unitary translating member translatable within an assembled elongate member comprised of a plurality of modular elongate member units that are stackable and engageable together, as is claimed in claim 1. Specifically, the device proposed by the Examiner would include individual racks disclosed in Balsamo that are mounted together by the individual rack bars mounted within each rack, thereby forming a discontinuous rack bar or translating member. The individual racks of Balsamo are also not engageable, as is claimed in claim 1, to each other through structure other than the head-shaped appendices and complementary slots on the individual rack bars. Further, one having ordinary skill in the art would not modify the device disclosed in Balsamo to include modular elongate member units that are engageable to form an assembled elongate member and are separate from a continuous, unitary translating member

because Balsamo and Givoni do not teach any structure separate from the individual rack bars of Balsamo that are utilized to engage adjacent racks or modular elongate member units. Therefore, Applicants respectfully submit no combination of Balsamo in view of Givoni would result in a device including each and every element of amended claim 1.

Claim 4 is dependent upon amended claim 1. Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claim 4 based upon unpatentability over Balsamo in view of Givoni based upon their dependence upon amended claim 1 for the above-stated reasons.

Examiner's Comments

The Examiner indicated on page 5 of the Office Action that the phraseology, “adapted to ...” and “for ...” fails to positively limit the claimed invention and the Examiner cannot find support in the specification for a “continuous, unitary” translating member.

Applicants have amended claim 1 as was outlined above to cancel the phrase, “adapted to” throughout and to cancel the word, “for”. Applicants respectfully submit that amended claim 1 positively claims the invention.

The Examiner also indicates that no support can be found in the specification for a “continuous, unitary” translating member.

Applicants respectfully submit that support for the translating member being comprised of a continuous, unitary member can be found in specification paragraphs 41 and 122 (line 39, page 5 – line 3, page 6 and line 32, page 15 – line 5, page 16 of original specification) and in Figs. 13a-14c, 16a and 16b.

CONCLUSION

In view of the foregoing Amendment and remarks, Applicants respectfully submit that the present application, including amended claims 1-13, 15, 17 and 18, is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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